PLASMODIUM MALARIAE (QUARTAN) —A TYPE NEW TO CALIFORNIA.

Report of two cases.

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While carrying out a plan for investigation of malarial conditions in the Sacramento Valley, submitted to and accepted by the California State Board of Health, our attention was called by Dr. B. F. Saylor of Redding to a case of malarial fever in a patient of his. From Dr. Saylor's patient we learned of another case showing similar symptoms.

Case No. 1. This patient has had many attacks of malaria on the same ranch, but not within the last ten years, and quoting from her remarks "not in the same form as the attacks last summer." From the history this patient undoubtedly received the infection some time in the spring of 1915. The paroxysms were at first very severe. They became less as the disease continued. Coincident with this decrease of the paroxysms, the general malaise progressed steadily until she was in an extremely weakened condition. The paroxysms came on the morning of every third day, with an interval of two days between attacks. In October, 1915, she was again ill with typical malarial symptoms for two weeks before a physician was called. Her chills came on in the morning of the third day and lasted about half an hour, with a temperature of 103°.

Case No. 2. This patient received his infection in the spring of 1914 and carried it over the winter months. When seen in October, 1915, the case was not having severe paroxysms. While he did not always have a distinct chill followed by fever, he had an attack every third day, ranging in severity from a slight chilliness and headache to a paroxysm of the regular type, with temperature. The atypical type of paroxysm was probably due to the fact that he was taking at the time more or less quinine in the shape of patent medicines.

LABORATORY EXAMINATIONS.

Blood smears were taken from both patients, and stained with Wright's stain. Slides from both cases, on microscopical examination, showed plasmodia easily demonstrated as quartan. The pigment was in large blocks arranged along the line of division between the merozoites. The merozoites were few in number, with definite nuclei. The recticulum was coarse. The plasmodia were regular in shape, and the red cells to which they were attached were slightly decreased in size.

CONCLUSION.

The clinical symptoms of the cases, with the endogenous cycle of the development of the plasmodia being 72 hours, demonstrated them to be quartan malaria. This was proven so on bacteriological examination. Quartan malaria has heretofore not been reported in California.

RUBEOLA.

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Rubeola, or measles, is one of the most communicable of all diseases. It is an infection peculiar to man although it has been produced in monkeys. Although most prevalent in the winter and spring months, it may be found in any large city at any time of the year. As a serious disease among children, it ranks as one of the most fatal of all the acute infections, there being about 12,000 deaths a year in this country.

Infection. Anderson and Goldberger [1] have demonstrated the virus of measles in the secretions of the nose and mouth. Hektoen [2] has shown that the virus is contained in the blood. The cause of the disease is not known. Rubeola is very contagious during the prodromal stage and the stage of invasion before the appearance of the rash. It is at this time that most of the damage is done. The infection of measles soon dies out and there is little danger of transmission of the infection after the fever subsides. The ordinary period of isolation is two weeks from the onset of the disease.

Immunity. Susceptibility to the infection does not diminish with increasing age. One attack usually confers a definite protection against second attacks. However, recurrences are more common than in the other eruptive fevers. The first few months of life are relatively immune.

Transmission. The secretions of the nose and mouth contain the virus. The desquamation does not carry the virus of the disease unless the skin become infected through the secretions. Measles is not air-borne. Droplet infection is very possible. The infection is transmitted usually from person to person. Third persons or fomites may in rare instances convey the disease.

Incubation. Ten days to two weeks, more often nine to eleven days with the eruption appearing on the thirteenth or fourteenth day after exposure.

Symptoms. The prodromal stage lasts from two to four days. The invasion is characterized by fever, coryza, lachrymation, and cough. After the first day there is often a marked drop in the temperature and this often leads to the belief that the patient has had some transient febrile disturbance. However, the other signs do not abate but rather increase in severity. Examination of the mucous membrane of the cheeks will show the characteristic Koplik spots. On the soft palate and extending to the hard palate there is also seen a dark red macular eruption, similar to what is to appear upon the skin. Toward the end of the third or on the beginning of the fourth day, there appears on the face an eruption consisting of small macules or papules on a slightly reddened base. This eruption rapidly extends downward to the trunk and remainder of the body. The efflorescence usually reaches its height in about thirty-six hours. The temperature is also elevated at this time and remains so corresponding to the intensity of the eruption. Photophobia is well marked. Gastro-